

What is claimed is:

1. A method for determining a jitter buffer depth target comprising steps of:
determining a radio frequency (RF) load metric corresponding to a base site;
5 comparing the determined RF load metric to an RF load threshold to produce a comparison; and
determining a jitter buffer depth target based on the comparison.
2. The method of claim 1, wherein when the determined radio frequency (RF) load
10 metric is greater than the RF load threshold, a jitter buffer depth target is used that is appropriate for a communication using retransmissions.
3. The method of claim 2, further comprising a step of determining to transmit
frames at a lower power level when the when the determined radio frequency (RF) load
15 metric is greater than the RF load threshold.
4. The method of claim 2, further comprising a step of determining to retransmit
erroneously received frames when the determined radio frequency (RF) load metric is
greater than the RF load threshold.
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5. The method of claim 1, wherein when the determined radio frequency (RF) load
metric is less than the RF load threshold, a jitter buffer depth target is used that is
appropriate for a communication using a reduced number of retransmissions.
- 25 6. The method of claim 5, further comprising a step of determining to transmit
frames at a higher power level when the when the determined radio frequency (RF) load
metric is less than the RF load threshold.
- 30 7. The method of claim 5, further comprising a step of determining to reduce or
eliminate the use of retransmissions of erroneously received frames when the determined
radio frequency (RF) load metric is less than the RF load threshold.

8. In a packet data communication system comprising a transmitting communication device and a receiving communication device that are each in wireless communication with a wireless infrastructure, a method of conveying data from the transmitting communication device to the receiving communication device comprising steps of:

5 establishing a reverse link between the transmitting communication device and the wireless infrastructure;

establishing a forward link between the wireless infrastructure and the receiving communication device, wherein the reverse link is established prior to the establishment of the forward link; and

10 signaling a user of the transmitting communication device to begin transmitting data prior to the establishment of the forward link.

9. The method of claim 8, wherein the receiving communication device comprises a jitter buffer in communication with a jitter buffer, and wherein the method further

15 comprises steps of:

receiving, by the receiving communication device, a first set of data transmitted by the transmitting communication device;

storing, by the receiving communication device, the first set of data in a jitter buffer;

20 determining a quantity of data stored in the jitter buffer; and

when the determined quantity of data stored in the jitter buffer is less than a predetermined quantity, conveying at least a portion of the first set of data stored in the jitter buffer to the jitter buffer prior to determining that the first set of data is correct.

10. A method for determining a size of a jitter buffer comprising steps of:
determining a number of retransmissions permitted of an erroneously received
frame; and

determining a size of the jitter buffer based on the determined number of
5 permitted retransmissions.

11. The method of claim 10, further comprising a step of determining a number of
bearer channels over which the frame is being transmitted, and wherein the step of
determining a size of a jitter buffer comprises a step of determining a size of a jitter buffer
10 based on the determined number of permitted retransmissions and on the determined
number of bearer channels.

12. The method of claim 11, further comprising a step of determining an amount of
time that expires between the transmission of an acknowledgment of an erroneously
15 received frame and a reception of a retransmitted frame in response to the
acknowledgment over each of the traffic, or bearer, channels to produce a round trip time
period, and wherein the step of determining a size of a jitter buffer comprises a step of
determining a size of a jitter buffer based on the determined number of permitted
retransmissions and the round trip time period.

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13. A method for reducing system delay in a wireless packet data communication system comprising a plurality of forward links and a plurality of reverse links, wherein each forward link of the plurality of forward links and each reverse link of the plurality of reverse links comprises a plurality of traffic channels and a supplemental channel, the

5 method comprising steps of:

building a radio frequency (RF) link in a reverse link assigned to a first mobile station as part of a set up of a dispatch call involving a plurality of mobile stations;

assigning a supplemental channel in at least one of the plurality of reverse links and plurality of forward links to the dispatch call; and

10 when there is a switch in who is speaking in the dispatch call, transmitting frames over the assigned supplemental channel and until jitter buffers of each of the non-speaker mobile stations participating in the call are filled.

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14. A method for constraining a size of a jitter buffer comprising steps of:
erroneously receiving a frame and acknowledging the erroneously received frame;
counting down a holdoff time period, wherein the holdoff time period is a period
of time that expires while the listener MS awaits a retransmission of the erroneously
5 received frame;

when the holdoff time period expires without the receiving a retransmission of the
acknowledged frame, retransmitting the acknowledgment; and

when the erroneously received frame is a retransmitted frame or a non-audio
information frame, reducing a length of the holdoff time period.